User Guide

Video Products

DTP HD DA4 4K 230/330
DTP HD DA8 4K 230/330

DTP HDMI Distribution Amplifiers

Extron Electronics
INTERFACING, SWITCHING AND CONTROL

68-2545-01 Rev. A
02 15

Safety Instructions

Safety Instructions • English

WARNING: This symbol, ⚠, when used on the product, is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

ATTENTION: This symbol, ⚠, when used on the product, is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.

For information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the Extron Safety and Regulatory Compliance Guide, part number 68-290-01, on the Extron website, **www.extron.com**.

Instructions de sécurité • Français

AVERTISSEMENT: Ce pictogramme, ⚠, lorsqu'il est utilisé sur le produit, signale à l'utilisateur la présence à l'intérieur du boîtier du produit d'une tension électrique dangereuse susceptible de provoquer un choc électrique.

ATTENTION: Ce pictogramme, ⚠, lorsqu'il est utilisé sur le produit, signale à l'utilisateur des instructions d'utilisation ou de maintenance importantes qui se trouvent dans la documentation fournie avec le matériel.

Pour en savoir plus sur les règles de sécurité, la conformité à la réglementation, la compatibilité EMI/EMF, l'accessibilité, et autres sujets connexes, lisez les informations de sécurité et de conformité Extron, réf. 68-290-01, sur le site Extron, **www.extron.com**.

Sicherheitsanweisungen • Deutsch

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VORSICHT: Dieses Symbol ⚠ auf dem Produkt soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.

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Instrucciones de seguridad • Español

ADVERTENCIA: Este símbolo, ⚠, cuando se utiliza en el producto, avisa al usuario de la presencia de voltaje peligroso sin aislar dentro del producto, lo que puede representar un riesgo de descarga eléctrica.

ATENCIÓN: Este símbolo, ⚠, cuando se utiliza en el producto, avisa al usuario de la presencia de importantes instrucciones de uso y mantenimiento recogidas en la documentación proporcionada con el equipo.

Para obtener información sobre directrices de seguridad, cumplimiento de normativas, compatibilidad electromagnética, accesibilidad y temas relacionados, consulte la Guía de cumplimiento de normativas y seguridad de Extron, referencia 68-290-01, en el sitio Web de Extron, **www.extron.com**.

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Для получения информации о правилах техники безопасности, соблюдении нормативных требований, электромагнитной совместимости (ЭМП/ЭДС), возможности доступа и других вопросах см. руководство по безопасности и соблюдению нормативных требований Extron на сайте Extron: **www.extron.com**, номер по каталогу - 68-290-01.

Chinese Simplified（简体中文）

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Chinese Traditional（繁體中文）

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有關安全性指導方針、法規遵守、EMI/EMF 相容性、存取範圍和相關主題的詳細資訊，請瀏覽 Extron 網站：**www.extron.com**，然後參閱《Extron 安全性與法規遵守手冊》，準則編號 68-290-01。

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安全上のご注意、法規厳守、EMI/EMF適合性、その他の関連項目については、エクストロンのウェブサイト **www.extron.com** より『Extron Safety and Regulatory Compliance Guide』(P/N 68-290-01) をご覧ください。

Korean

경고: 이 기호 ⚠ 가 제품에 사용될 경우, 제품의 인클로저 내에 있는 접지되지 않은 위험한 전류로 인해 사용자가 감전될 위험이 있음을 경고합니다.

주의: 이 기호 ⚠ 가 제품에 사용될 경우, 장비와 함께 제공된 책자에 나와 있는 주요 운영 및 유지보수(정비) 지침을 경고합니다.

안전 가이드라인, 규제 준수, EMI/EMF 호환성, 접근성, 그리고 관련 항목에 대한 자세한 내용은 Extron 웹 사이트(**www.extron.com**)의 Extron 안전 및 규제 준수 안내서, 68-290-01 조항을 참조하십시오.

FCC Class A Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. The Class A limits provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference. This interference must be corrected at the expense of the user.

ATTENTION: The Twisted Pair Extension technology works with shielded twisted pair (STP) cables **only**. To ensure FCC Class A and CE compliance, STP cables and STP Connectors are also required.

For more information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the "**Extron Safety and Regulatory Compliance Guide**" on the Extron website.

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Conventions Used in this Guide

Notifications

The following notifications are used in this guide:

ATTENTION:
- Risk of property damage.
- Risque de dommages matériels.

NOTE: A note draws attention to important information.

TIP: A tip provides a suggestion to make working with the application easier.

Software Commands

Commands are written in the fonts shown here:

```
^AR Merge Scene,,Op1 scene 1,1 ^B 51 ^W^C
[Ø1] R ØØØ4 ØØ3ØØ ØØ4ØØ ØØ8ØØ ØØ6ØØ [Ø2] 35 [17] [Ø3]
Esc X1 * X17 * X20 * X23 * X21 CE ←
```

NOTE: For commands and examples of computer or device responses mentioned in this guide, the character “0” is used for the number zero and “O” is the capital letter “o.”

Computer responses and directory paths that do not have variables are written in the font shown here:

```
Reply from 208.132.180.48: bytes=32 times=2ms TTL=32
C:\Program Files\Extron
```

Variables are written in slanted form as shown here:

```
ping xxx.xxx.xxx.xxx –t
SOH R Data STX Command ETB ETX
```

Selectable items, such as menu names, menu options, buttons, tabs, and field names are written in the font shown here:

From the **File** menu, select **New**.

Click the **OK** button.

Specifications Availability

Product specifications are available on the Extron website, **www.extron.com**.

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Introduction

This guide describes the function, installation, and operation of the DTP HD DA4 4K and DTP HD DA8 4K series of distribution amplifiers. Unless otherwise stated, the terms "distribution amplifier" or "DA" refer to any of the products in the series.

This section provides the following information:

- **About the DTP HD DA4/DA8 4K 230/330**
- **Features**
- **Application Diagrams**

About the DTP HD DA4/DA8 4K 230/330

These Extron distribution amplifiers distribute one HDMI input signal to four (DTP HD DA4 4K 230/330) or eight (DTP HD DA8 4K 230/330) simultaneous outputs over shielded twisted pair (STP) cables. Both models are fully High-bandwidth Digital Content Protection (HDCP) compliant.

These distribution amplifiers support data rates up to 10.2 Gbps (3.4 Gbps per color) with up to 12-bit deep color and use the EDID Minder feature for EDID management.

The automatic output compatibility correction feature scans each output device to ensure that the output signal is compatible with the color depth and format requirements of the device. Each output is adjusted independently.

Features

Distributes HDMI plus control and analog audio up to 230 feet (70 meters) or 330 feet (100 meters) over STP cable (depending on the model) — The DTP HD DA series provides high reliability and maximum performance on an economical and easily installed cable infrastructure.

Inputs: One HDMI with buffered input loop-through, one 3.5 mm stereo mini jack for audio with loop-through

Outputs: Four (DTP HD DA4 4K 230/330 models) or eight (DTP HD DA8 4K 230/330 models) DTP twisted pair outputs on RJ-45

Supports computer video up to 2560x1600, HDTV 1080p/60 Deep Color, and 4K resolutions

DTP outputs are compatible with HDBaseT-enabled devices — Each DTP output can be configured to send video and embedded audio, plus bidirectional RS-232 and IR signals to an HDBaseT-enabled device.

HDMI input loop-through — The DTP HD DA series features an active local HDMI output for local monitor support or system expansion.

Audio input with loop-through accepts additional analog stereo audio signals — The DTP HD DA series accepts stereo analog audio signals for simultaneous transmission over the same shielded twisted pair cable, and it includes a loop-through for local audio system and monitoring needs. Analog audio is not embedded onto the digital video signal, nor is digital audio de-embedded from the digital video signal.

Supports multiple embedded audio formats — The DTP HD DA series is compatible with a broad range of multi-channel audio signals, providing reliable operation with HDMI sources.

Remote powering of DTP receivers — The DTP HD DA series can provide power to four or eight DTP receivers over the twisted pair connections, eliminating the need for separate power supplies at the remote units.

RS-232 insertion from the Ethernet control port — System level AV device control to all remote locations via the distribution amplifier's Ethernet port, providing comprehensive control of the attached devices without needing additional equipment.

Bidirectional RS-232 and IR pass-through for AV device control — Bidirectional RS-232 control and IR signals can be transmitted alongside the video signal, allowing remote AV devices to be controlled without the need for additional cabling.

HDCP compliant

Supported HDMI specification features include data rates up to 10.2 Gbps, Deep Color up to 12-bit, 3D, and HD lossless audio formats

Key Minder continuously verifies HDCP compliance — Key Minder authenticates and maintains continuous HDCP encryption between input and output devices to enable simultaneous distribution of a single source signal to two or more displays.

EDID Minder automatically manages EDID communication between connected devices — EDID Minder ensures that the source powers up properly and reliably outputs content for display.

Supports EDID and HDCP transmission — DDC channels are actively buffered, allowing continuous communication between source and display.

HDCP authentication and signal presence confirmation — Provides real-time verification of HDCP status for each digital video input and output. This allows for simple, quick, and easy signal and HDCP verification through front panel LEDs, RS-232, USB, or Ethernet, providing valuable feedback to a system operator or helpdesk support staff.

HDCP Visual Confirmation provides a green signal when encrypted content is sent to a non-compliant display — A full-screen green signal is sent when HDCP-encrypted content is transmitted to a non-HDCP compliant display, providing immediate visual confirmation that protected content cannot be viewed on the display.

HDMI to DVI Interface Format Correction — Automatically enables or disables embedded audio and InfoFrames, and sets the correct color space for proper connection to HDMI and DVI displays.

RS-232 control port — Enables the use of serial commands for integration into a control system. Extron products use the SIS - Simple Instruction Set command protocol, a set of basic ASCII commands that allow for quick and easy programming.

RJ-45 signal and link LED indicators for DTP ports — Provides a means for validating signal flow and operation, allowing quick identification of connectivity issues.

Compatible with all DTP 230 and DTP 330 Series receivers and DTP-enabled products — Enables mixing and matching with desktop and wallplate receivers, as well as other DTP-enabled products to meet application requirements.

Application Diagrams

The diagrams below show typical applications for the DTP HD DA4/DA8 230/330.

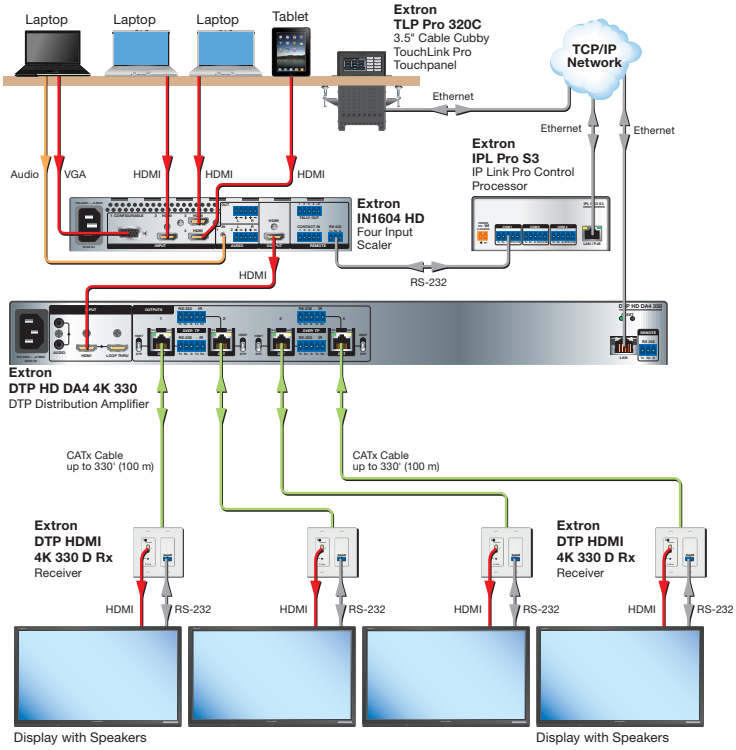


Figure 1. DTP HD DA4 4K 230/330 Application Diagram

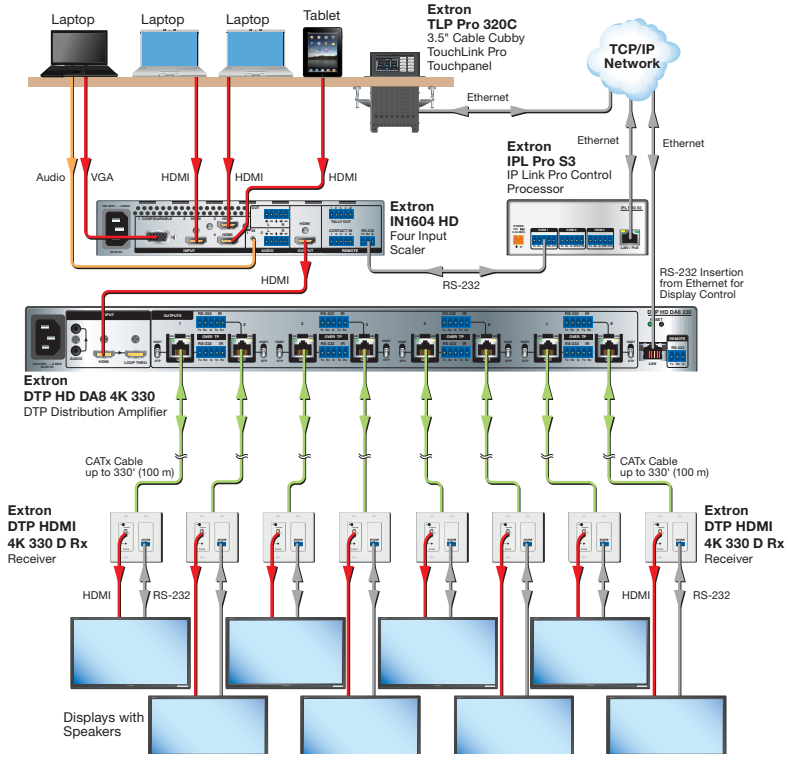


Figure 2. DTP HD DA8 4K 230/330 Application Diagram

Installation and Operation

This section of the guide describes the following topics concerned with the installation, setup, and operation of the DTP HD DA4 and DTP HD DA8 series of distribution amplifiers.

- **Mounting the Units**
- **Front Panel Features**
- **Rear Panel Features**
- **Connecting the Input Source**
- **Twisted Pair Recommendations for DTP Communication**
- **Wiring for RS-232 Control**

Mounting the Units

ATTENTION:

- Installation and service must be performed by authorized personnel only.
- L'installation et l'entretien doivent être effectués par le personnel autorisé uniquement.

The DTP HD DA4 and DTP HD DA8 series of distribution amplifiers can be placed on a table, mounted in a rack, or mounted under a desk or table.

Tabletop Use

Affix the included rubber feet to the bottom of the unit and place it in any convenient location.

Mounting Kits

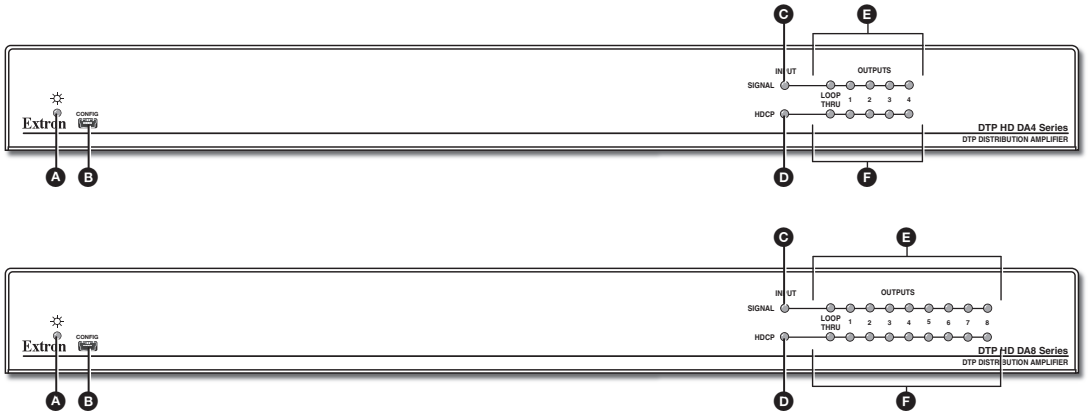
Mount the unit using any optional compatible mounting kit listed on the Extron website (**www.extron.com**), in accordance with the directions included with the kit. For rack mounting, see **UL Rack-Mounting Guidelines** on the next page.

UL Rack-Mounting Guidelines

The following Underwriters Laboratories (UL) requirements pertain to the installation of the unit into a rack.

- **Elevated operating ambient temperature** — If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consider installing the equipment in an environment compatible with the maximum ambient temperature (TMA = +122 °F, +50 °C) specified by Extron.
- **Reduced air flow** — Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- **Mechanical loading** — Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- **Circuit overloading** — Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Front Panel Features



A **Power status LED** — Lights green when power is applied to the unit.

B **USB Config port** — Used for firmware updates, SIS configuration, and software control. This port can be used as an alternative to the rear panel Remote RS-232 captive screw connector.

NOTES:

- Neither port has precedence and commands from either port are handled in the order they are received.
- Extron recommends that the USB port is used for temporary connections. If a permanent connection is required, the RS-232 port should be used.

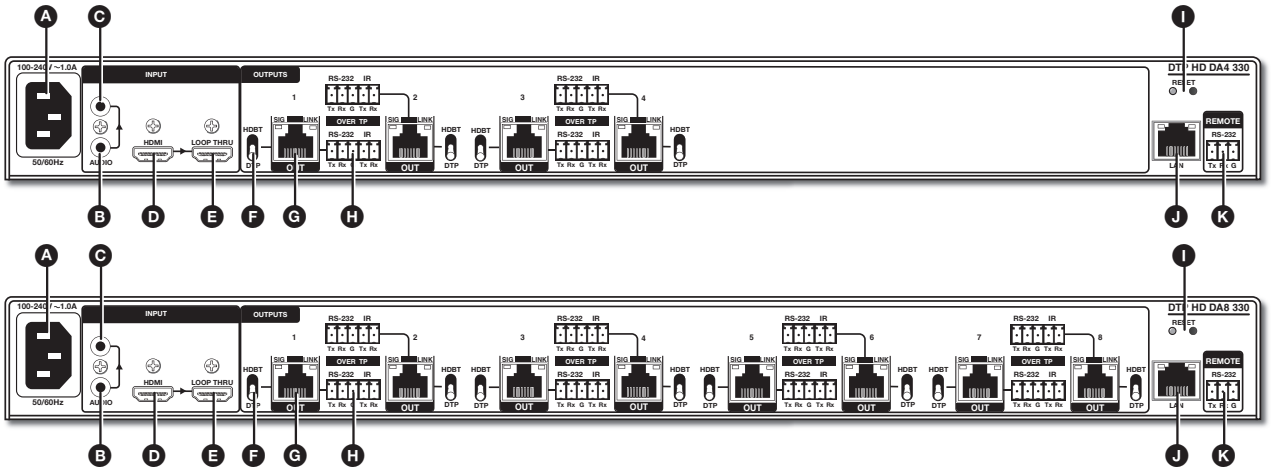
C **Input Signal LED** — Lights green when a signal is detected on the HDMI input.

D **Input HDCP LED** — Lights green when HDCP presence is detected on the HDMI input.

E **Output Signal LEDs** — Light green when a signal is detected on the HDMI outputs.

F **Output HDCP LEDs** — Light green when HDCP presence is detected on the HDMI outputs.

Rear Panel Features



- **A** Power input
- **B** Analog audio input
- **C** Analog audio Loop Thru
- **D** HDMI input
- **E** HDMI Loop Thru
- **F** DTP/HDBaseT configuration switches
- **G** DTP/HDBaseT outputs
- **H** Over TP RS-232/IR connectors
- **I** Reset button and LED
- **J** LAN connector
- **K** Remote RS-232 connector

A **Power input** — Connect the provided IEC connector to a 100-240 VAC (50 or 60 Hz) power source.

B **Analog audio input** — Connect an unbalanced stereo audio source to these 3.5 mm mini stereo jacks.

> **NOTE:** The units do NOT embed analog audio onto the HDMI signal. This analog audio signal is transmitted simultaneously with audio embedded within the HDMI signal.

C **Analog audio Loop-Thru** — Connect an audio system to this 3.5 mm mini stereo jack for local loop-through monitoring of the source audio.

D **HDMI input** — Connect a source device to this female HDMI type A connector (see **Connecting the Input Source** on page 8 for more information).

E **HDMI Loop Thru** — Connect a display to this female HDMI type A connector for local loop-through monitoring of the source signal (see **Connecting the Input Source** on page 8 for more information).

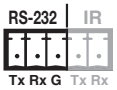
F **DTP/HDBaseT configuration switch** — Set this 2-position, recessed switch to configure the output between HDBaseT and DTP modes. When configured for HDBaseT, use an HDBaseT-compatible receiver. When configured for DTP, use a DTP-compatible receiver.

G **DTP/HDBaseT outputs** — Use STP cables to connect these 4 (DA4 models) or 8 (DA8 models) outputs (see illustration on **page 6**) to the inputs of a compatible receiver (see **Twisted Pair Recommendations for DTP Communication** on page 9 for more information).

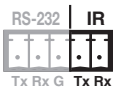
ATTENTION:

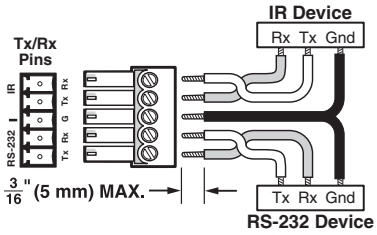
- Do not connect these outputs to a telecommunications or computer data network.
- Ne connectez pas ces appareils à des données informatiques ou à un réseau de télécommunications.

H **RS-232 Over TP port** — To pass bidirectional serial control between DTP-compatible or HDBaseT-compatible devices, connect a control device to the 5-pole captive screw connector. This port includes only the 3 poles labeled "RS-232" (see image below for wiring instructions).



IR Over TP port — To transmit and receive IR signals, connect a control device to the 5-pole captive screw connector. This port includes only the 2 poles labeled "IR" and shares the ground pole with the RS-232 port (see image below for wiring instructions).



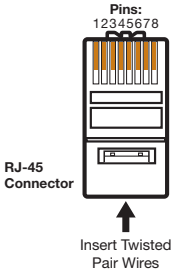


NOTE: RS-232 and IR data can be transmitted simultaneously.

I **Reset button and LED** — To reset the unit to factory default settings, press and hold this reset button for approximately 9 seconds. The reset LED will flash green 3 times, once every 3 seconds. After the third flash, release the button and quickly press it once more to complete the reset. The LED will flash green 3 times indicating that the default settings have been restored.

J **LAN (Ethernet) connector** — Use an RJ-45 cable to connect this jack to a LAN (Ethernet) for control of the device.

- Use a straight-through cable for connection to a switch, hub, or router.
- Use a crossover cable or a straight-through cable for connection directly to a PC. Wire the connector as shown in the image below.



Straight-through Cable (for connection to a switch, hub, or router)			
End 1		End 2	
Pin	Wire Color	Pin	Wire Color
1	white-orange	1	white-orange
2	orange	2	orange
3	white-green	3	white-green
4	blue	4	blue
5	white-blue	5	white-blue
6	green	6	green
7	white-brown	7	white-brown
8	brown	8	brown
TIA/EIA-T568B		T568B	

Crossover Cable (for direct connection to a PC)			
End 1		End 2	
Pin	Wire Color	Pin	Wire Color
1	white-orange	1	white-green
2	orange	2	green
3	white-green	3	white-orange
4	blue	4	blue
5	white-blue	5	white-blue
6	green	6	orange
7	white-brown	7	white-brown
8	brown	8	brown
T568B		T568A	

K **Remote RS-232 connector** — To control the unit, connect an RS-232 device to this 3-pole, 3.5 mm captive screw connector and configure it as follows: 9600 baud rate, 8 data bits,1 stop bit, no parity (see **Wiring for RS-232 Control** on page 10 for more information).

Connecting the Input Source

Use an HDMI cable to connect the input source to the female HDMI socket on the rear panel (see Ⓓ on **page 6**).

Follow these instructions to secure the input and output HDMI connectors to the unit with the LockIt HDMI lacing bracket provided:

1. Plug the HDMI cable into the rear panel connection.
2. Loosen the HDMI connection mounting screw from the panel enough to allow the LockIt lacing bracket to be placed over it. The screw does not have to be removed.
3. Place the LockIt lacing bracket on the screw and against the HDMI connector, then tighten the screw to secure the bracket.

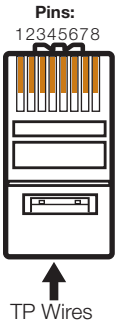
ATTENTION:

- Do not overtighten the HDMI connection mounting screw. The shield it fastens to is very thin and can easily be stripped.
- Ne serrez pas trop la vis de montage de la connexion HDMI. Le blindage auquel elle est attachée est très fin et peut facilement être dénudé.

4. Loosely place the included tie wrap around the HDMI connector and the LockIt lacing bracket as shown.
5. While holding the connector securely against the lacing bracket, tighten the tie wrap, then remove any excess length.

Twisted Pair Recommendations for DTP Communication

Use the following pin configurations for shielded twisted pair cables.



Pin	TIA/EIA T 568 B Wire color
1	White-orange
2	Orange
3	White-green
4	Blue
5	White-blue
6	Green
7	White-brown
8	Brown

Figure 3. Twisted Pair Cable Configuration

Supported Cables

The distribution amplifiers are compatible with shielded twisted pair cable (F/UTP, SF/UTP, and S/FTP).

ATTENTION:

- Do not use Extron UTP23SF-4 Enhanced Skew-Free AV UTP cable or STP201 cable to link the device with DTP transmitters or receivers.
- N'utilisez pas le câble AV Skew-Free UTP version améliorée UTP23SF d'Extron ou le câble STP201 pour relier le appareil avec les émetteurs ou les récepteurs DTP.

Cable Recommendations

Extron recommends using the following practices to achieve full transmission distances and reduce transmission errors.

- Use the following Extron XTP DTP 24 SF/UTP cables and connectors for the best performance:
  - **XTP DTP 24/1000** Non-Plenum 1000' (305 m) spool 22-236-03
  - **XTP DTP 24P/1000** Plenum 1000' (305 m) spool 22-235-03
  - **XTP DTP 24 Plug** Package of 10 101-005-02
- If not using XTP DTP 24 cable, at a minimum, Extron recommends 24 AWG, solid conductor, STP cable with a minimum bandwidth of 400 MHz.
- Terminate cables with shielded connectors to the TIA/EIA-T568B standard.
- Limit the use of more than two pass-through points, which may include patch points, punch down connectors, couplers, and power injectors. If these pass-through points are required, use shielded couplers and punch down connectors.

NOTE: When using shielded twisted pair cable in bundles or conduits, consider the following:

- Do not exceed 40% fill capacity in conduits.
- Do not comb the cable for the first 20 meters, where cables are straightened, aligned, and secured in tight bundles.
- Loosely place cables and limit the use of tie wraps or hook-and-loop fasteners.
- Separate twisted pair cables from AC power cables.

Wiring for RS-232 Control

RS-232 communication between the distribution amplifier and a host PC can be used to update firmware or configure the unit using SIS commands (see **Command and Response Table for SIS Commands** on page 16).

The computer connects to either the rear panel 3-pole RS-232 port (K on **page 7**) or the front panel USB port (B on **page 5**) of the distribution amplifier.

NOTES:

- Neither port has precedence and commands from either port are handled in the order they are received.
- Extron recommends that the USB port is used for temporary connections. If a permanent connection is required, the RS-232 port should be used.

1. Connect an RS-232 cable to the computer, using a female 9-pin D connector (see figure 4):
   - Data received by the computer = pin 2
   - Data transmitted by the computer = pin 3
   - Ground = pin 5
2. Wire the opposite end of the cable to the provided 3-pole captive screw plug (see figure 4):
   - Data transmitted by the DA plugs into the Tx (transmit) port
   - Data received by the DA plugs into the Rx (receive) port
   - Ground plugs into the G (ground) port

NOTES:

- The wiring in the RS-232 cables crosses over so that the Tx on the distribution amplifier connects to the Rx of the control device and vice versa. Ground always connects to ground.
- If the cable has a drain wire, tie the drain wire to the ground at both ends.

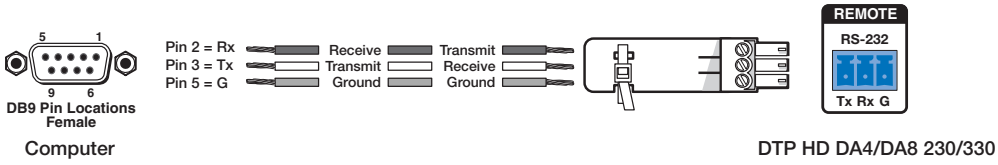


Figure 4. Wiring the DTP HD DA4 and DA8 Series for RS-232 Control

SIS Commands

This section provides information about the SIS commands that are used to configure the DTP HD DA4 and DTP HD DA8 series. The following topics are discussed:

- **Introduction to SIS**
- **Symbols Used in this Guide**
- **DTP HD DA4/DA8 EDID Memory Locations**
- **Command and Response Table for SIS Commands**

Introduction to SIS

The distribution amplifiers can be set up and controlled remotely via Extron SIS commands that are issued from a host computer running the Extron DataViewer utility or other control system. The host device can be connected to the RJ-45 LAN connector on the rear panel, the 3-pole captive screw connector on the rear panel, or to the mini USB config port on the front panel.

The serial protocol is 9600 baud, 8 data bit, 1 stop bit, and no parity.

NOTE: The wiring in the RS-232 cables crosses over so that the distribution amplifier transmit (Tx) wire connects with the control device receive (Rx) and vice versa.

Host-to-Distribution Amplifier Communications

SIS commands consist of strings (one or more characters per command field). No special characters are required to begin or end a command sequence. Unless otherwise stated, upper and lower case characters can be used interchangeably. Most responses from the distribution amplifier ends with a carriage return and a line feed (CR/LF = ↵), which signals the end of the response character string. When the switcher determines that a command is valid, it executes the command and sends a response to the host device.

Distribution Amplifier-initiated Messages

When a local event such as a change in signal status takes place, the distribution amplifier responds by sending a message to the host, indicating the status change. No response is required from the host.

Copyright Information

The copyright message is displayed upon connecting to a DA via TCP/IP or Telnet or after a power cycle via RS-232.

↵© Copyright 20*yy*, Extron Electronics, DTP HD DA4/DA8 4K 230/330,
V*x.xx*, 60-*xxxx*-01↵
Mon, 2 Feb 2015 11:27:33 ↵

20*yy* is the year the currently installed firmware was released, V*x.xx* is the firmware version number, and 60-*xxxx*-01 is the catalog part number.

This is followed by a Password prompt if a password has been set.

Symbols Used in this Guide

When programming in the field, certain characters are most conveniently represented by their hexadecimal rather than their ASCII values. The table below shows the hexadecimal equivalent of each ASCII character:

ASCII to HEX Conversion Table										Esc	1B	CR	ØD	LF	ØA
Space	2Ø	!	21	"	22	#	23	$	24	%	25	&	26	'	27
(	28	)	29	*	2A	+	2B	,	2C	-	2D	.	2E	/	2F
Ø	3Ø	1	31	2	32	3	33	4	34	5	35	6	36	7	37
8	38	9	39	:	3A	;	3B	<	3C	=	3D	>	3E	?	3F
@	4Ø	A	41	B	42	C	43	D	44	E	45	F	46	G	47
H	48	I	49	J	4A	K	4B	L	4C	M	4D	N	4E	O	4F
P	5Ø	Q	51	R	52	S	53	T	54	U	55	V	56	W	57
X	58	Y	59	Z	5A	[	5B	\	5C	]	5D	^	5E	_	5F
`	6Ø	a	61	b	62	c	63	d	64	e	65	f	66	g	67
h	68	i	69	j	6A	k	6B	l	6C	m	6D	n	6E	o	6F
p	7Ø	q	71	r	72	s	73	t	74	u	75	v	76	w	77
x	78	y	79	z	7A	{	7B	I	7C	}	7D	~	7E	DEL	7F

Table 1. ASCII to HEX Conversion Table

Symbol Definitions

● = Space

↵ = Carriage return with line feed

| or ← = Carriage return with no line feed

Esc or W = Escape

X1 = Output selection
1 - 4 (DTP HD DA4 models)
1 - 8 (DTP HD DA8 models)

X2 = Output status
Ø = disabled/off/undetected
1 = enabled/on/detected

X3 = Video color bit depth
Ø = auto (based on EDID of sink)
1 = force 8-bit

X4 = EDID memory location
See the **DTP HD DA4/DA8 EDID Memory Locations** table on page 15.

X5 = EDID data as 256 bytes of hex data (text representation)

X6 = Native resolution and refresh rate (translated from hex)
Example: 1600x1200 @60Hz

X7 = Controller firmware version to the second decimal place

X8 = Unit name: Up to 24 alphanumeric characters (including the hyphen [-])
No spaces allowed
No distinction between upper and lower case letters
First character must be a letter
Last character cannot be a hyphen (-)
Default is model name followed by last 3 digits of MAC address

X10 = RS-232 mode
Ø = RS-232 pass through
1 = Embedded RS-232

X11	=	TMDS output format	Ø = Auto (default), pass through if HDMI sink, force DVI format if DVI sink 1 = DVI RGB 444 2 = HDMI RGB “Full” 3 = HDMI RGB “Limited” 4 = HDMI YUV 444 “Limited” 5 = HDMI YUV 444 “Full” 6 = HDMI YUV 422 “Limited” 7 = HDMI YUV 422 “Full”
X12	=	HDCP output mode	Ø = Encrypt as required by input (Continuous trials for HDMI sinks, attempt for 10 seconds on DVI sinks,then fail) 1 = Always encrypt (Continuous trials for HDMI sinks, attempt for 10 seconds on DVI sinks,then fail) 2 = Encrypt as required by input (Continuous trials for HDMI sinks and DVI sinks) 3 = Always encrypt (Continuous trials for HDMI sinks and DVI sinks)
X13	=	DTP/HDBaseT switch position	Ø = DTP mode 1 = HDBaseT mode
X14	=	Verbose mode	Ø = Clear/none (default for telnet) 1 = Verbose mode (default for RS-232 and USB) 2 = Tagged responses for queries 3 = Verbose mode and tagged responses for queries
X15	=	Set date/time	MM/DD/YY-HH:MM:SS *Example: Fri, 21 Jun 2002 10:54:00*
X16	=	IP address	*xxx.xxx.xxx.xxx* (192.168.254.254 = default)
X17	=	MAC address	ØØ-Ø5-A6-*xx-xx-xx*
X18	=	Subnet mask	*xxx.xxx.xxx.xxx* (255.255.Ø.Ø = default)
X19	=	Password	12 digits and alphanumeric characters for user or admin passwords.

NOTE: / \ | * and *space* are invalid characters.

X57	=	Port number	Ø1 = Remote RS-232/RS-422 port Ø2 = unused Ø3-1Ø = UARTs 1 through 8
X58	=	Baud rate	Default = 9600 Port 1 is fixed at 9600
X59	=	Parity	Odd, Even, None (default), Mark, Space (only the first letter is required)
X60	=	Data bits	7-8 (8 = default)
X61	=	Stop bits	1, 2 (1 = default)
X64	=	Port timeout intervals	1-65ØØØ (1 = 10 seconds; default = 30 - 300 seconds = 5 minutes, in 10-second increments)
X65	=	Start point for UART ports	1999 = default
X66	=	Video mute	Ø = Video mute disabled 1 = Video mute 2 = Video and sync mute

Error Messages

E01 — Invalid output channel number (too large)

E10 — Invalid command

E13 — Invalid value (too large)

EDID

User assigned mode

In user assigned mode, the user can select from 55 factory loaded EDID files, each categorized by rate type (PC or HDTV), video format (DVI or HDMI), audio type (2-Ch or Multi-Ch), and native resolution. The unit retains this setting after a power cycle.

Additionally, two user-loaded slots are available to save the EDID of any connected display. EDIDs saved to these slots are retained after a power cycle. Upon a factory reset, these EDIDs revert to the factory default (720p @ 60 Hz, 2-Ch audio).

A table showing the factory loaded EDID options is shown on the following page. The EDID memory location is labelled X4 for consistency with the value in the SIS commands.

DTP HD DA4/DA8 EDID Memory Locations

X4	Native Resolution	Refresh Rate	Rate Type	Video Format	Audio Type	File Name
1	800x600	60 Hz	PC	DVI	n/a	EXN_DVI1_800x600_60.bin
2	1024x768	60 Hz	PC	DVI	n/a	EXN_DVI2_1024x768_60.bin
3	1280x720	60 Hz	PC	DVI	n/a	EXN_DVI3_1280x720_60.bin
4	1280x768	60 Hz	PC	DVI	n/a	EXN_DVI4_1280x768_60.bin
5	1280x800	60 Hz	PC	DVI	n/a	EXN_DVI5_1280x800_60.bin
6	1280x1024	60 Hz	PC	DVI	n/a	EXN_DVI6_1280x1024_60.bin
7	1360x768	60 Hz	PC	DVI	n/a	EXN_DVI7_1360x768_60.bin
8	1366x768	60 Hz	PC	DVI	n/a	EXN_DVI8_1366x768_60.bin
9	1400x1050	60 Hz	PC	DVI	n/a	EXN_DVI9_1400x1050_60.bin
10	1440x900	60 Hz	PC	DVI	n/a	EXN_DVI10_1440x900_60.bin
11	1600x900	60 Hz	PC	DVI	n/a	EXN_DVI11_1600x900_60.bin
12	1600x1200	60 Hz	PC	DVI	n/a	EXN_DVI12_1600x1200_60.bin
13	1680x1050	60 Hz	PC	DVI	n/a	EXN_DVI13_1680x1050_60.bin
14	1920x1080	60 Hz	PC	DVI	n/a	EXN_DVI14_1920x1080_60.bin
15	1920x1200	60 Hz	PC	DVI	n/a	EXN_DVI15_1920x1200_60.bin
16	2048x1080	60 Hz	PC	DVI	n/a	EXN_DVI16_2048x1080_60.bin
17	800x600	60 Hz	PC	HDMI	2-ch	EXN_HDMI1_800x600_60_2Ch Audio.bin
18	1024x768	60 Hz	PC	HDMI	2-ch	EXN_HDMI2_1024x768_60_2Ch Audio.bin
19	1280x768	60 Hz	PC	HDMI	2-ch	EXN_HDMI3_1280x768_60_2Ch Audio.bin
20	1280x800	60 Hz	PC	HDMI	2-ch	EXN_HDMI4_1280x800_60_2Ch Audio.bin
21	1280x1024	60 Hz	PC	HDMI	2-ch	EXN_HDMI5_1280x1024_60_2Ch Audio.bin
22	1360x768	60 Hz	PC	HDMI	2-ch	EXN_HDMI6_1360x768_60_2Ch Audio.bin
23	1366x768	60 Hz	PC	HDMI	2-ch	EXN_HDMI7_1366x768_60_2Ch Audio.bin
24	1400x1050	60 Hz	PC	HDMI	2-ch	EXN_HDMI8_1400x1050_60_2Ch Audio.bin
25	1440x900	60 Hz	PC	HDMI	2-ch	EXN_HDMI9_1440x900_60_2Ch Audio.bin
26	1600x900	60 Hz	PC	HDMI	2-ch	EXN_HDMI10_1600x900_60_2Ch Audio.bin
27	1600x1200	60 Hz	PC	HDMI	2-ch	EXN_HDMI11_1600x1200_60_2Ch Audio.bin
28	1680x1050	60 Hz	PC	HDMI	2-ch	EXN_HDMI12_1680x1050_60_2Ch Audio.bin
29	1920x1200	60 Hz	PC	HDMI	2-ch	EXN_HDMI13_1920x1200_60_2Ch Audio.bin
30	1920x2160	60 Hz	PC	HDMI	2-ch	EXN_HDMI14_1920x2160_60_2Ch Audio.bin
31	2048x1080	60 Hz	PC	HDMI	2-ch	EXN_HDMI15_2048x1080_60_2Ch Audio.bin
32	2048x2160	60 Hz	PC	HDMI	2-ch	EXN_HDMI16_2048x2160_60_2Ch Audio.bin
33	2560x1080	60 Hz	PC	HDMI	2-ch	EXN_HDMI17_2560x1080_60_2Ch Audio.bin
34	2560x1440	60 Hz	PC	HDMI	2-ch	EXN_HDMI18_2560x1440_60_2Ch Audio.bin
35	2560x1600	60 Hz	PC	HDMI	2-ch	EXN_HDMI19_2560x1600_60_2Ch Audio.bin

X4	Native Resolution	Refresh Rate	Rate Type	Video Format	Audio Type	File Name
36	480p	60 Hz	HDTV	HDMI	2-ch	EXN_HDMI20_480p60_2Ch Audio.bin
37	576p	50 Hz	HDTV	HDMI	2-ch	EXN_HDMI21_576p50_2Ch Audio.bin
38	720p	50 Hz	HDTV	HDMI	2-ch	EXN_HDMI22_720p50_2Ch Audio.bin
39*	720p	60 Hz	HDTV	HDMI	2-ch	EXN_HDMI23_720p60_2Ch Audio.bin
40	1080i	50 Hz	HDTV	HDMI	2-ch	EXN_HDMI24_1080i50_2Ch Audio.bin
41	1080i	60 Hz	HDTV	HDMI	2-ch	EXN_HDMI25_1080i60_2Ch Audio.bin
42	1080p	50/25 Hz	HDTV	HDMI	2-ch	EXN_HDMI26_1080p50_25_2Ch Audio.bin
43	1080p	50 Hz	HDTV	HDMI	2-ch	EXN_HDMI27_1080p50_2Ch Audio.bin
44	1080p	60/24 Hz	HDTV	HDMI	2-ch	EXN_HDMI28_1080p60_24_2Ch Audio.bin
45	1080p	60 Hz	HDTV	HDMI	2-ch	EXN_HDMI29_1080p60_2Ch Audio.bin
46	4k / UHD	30 Hz	HDTV	HDMI	2-ch	EXN_HDMI30_4KUHD_60_2Ch Audio.bin
47	720p	50 Hz	HDTV	HDMI	multi-ch	EXN_HDMI31_720p50_MultiCh Audio.bin
48	720p	60 Hz	HDTV	HDMI	multi-ch	EXN_HDMI32_720p60_MultiCh Audio.bin
49	1080i	50 Hz	HDTV	HDMI	multi-ch	EXN_HDMI33_1080i50_MultiCh Audio.bin
50	1080i	60 Hz	HDTV	HDMI	multi-ch	EXN_HDMI34_1080i60_MultiCh Audio.bin
51	1080p	50/25 Hz	HDTV	HDMI	multi-ch	EXN_HDMI35_1080p50_25_MultiCh Audio.bin
52	1080p	50 Hz	HDTV	HDMI	multi-ch	EXN_HDMI36_1080p50_MultiCh Audio.bin
53	1080p	60/24 Hz	HDTV	HDMI	multi-ch	EXN_HDMI37_1080p60_24_MultiCh Audio.bin
54	1080p	60 Hz	HDTV	HDMI	multi-ch	EXN_HDMI38_1080p60_MultiCh Audio.bin
55	4k / UHD	30 Hz	HDTV	HDMI	multi-ch	EXN_HDMI39_4KUHD_30_MultiCh Audio.bin
56	Loop-Through				Automatically populated with EDID from connected sink device(s).	
57	Output 1					
58	Output 2					
59	Output 3					
60	Output 4					
61	Output 5					
62	Output 6					
63	Output 7					
64	Output 8					
65	User loaded slot 1				Manually populated by user	
66	User loaded slot 2					
*Default						

Command and Response Table for SIS Commands

Command	ASCII Command (host to unit)	Response (unit to host)	Additional Description
Video Mute			
Video mute single output	X1*X66B/b	VmtX1*X66↵	Video mute output X1 only 1, 2, 3, or 4 (DA4) 1, 2, 3, 4, 5, 6, 7, or 8 (DA8) X66 = Ø (video mute disabled) or 1 (video mute TMDS) or 2 (video and sync mute)
Video mute all outputs	X66B/b	VmtX66↵	
Query video mute status	B/b	VmtX66•X66•...X66↵	Video mute status of outputs 1 to 4 (DA4) or 1 to 8 (DA8).
Analog Audio Mute			
Audio mute single output	X1*X2Z/z	AmtX1*X2↵	Audio mute output X1 only X2 = Ø (audio mute disabled) or 1 (audio mute)
Audio mute all outputs	X2Z/z	AmtX2↵	
Query audio mute status	Z/z	AmtX2•X2•...X2↵	Audio mute status of outputs 1 to 4 (DA4) or 1 to 8 (DA8).
HDMI (embedded) Audio Mute			
Audio mute single output	EscX1*X2AFMT←	AfmtX1*X2↵	Audio mute output X1 only X2 = Ø (audio mute disabled) or 1 (audio mute)
Audio mute all outputs	EscX2AFMT←	AfmtX2↵	
Query audio mute status	EscAFMT←	AfmtX2•X2•...X2↵	Audio mute status of outputs 1 to 4 (DA4) or 1 to 8 (DA8).
TMDS Output Format			
Set format for single output	EscX1*X11VTPO←	VtpoX1*X11↵	X11 = Ø-7 (Ø = default)
Set format for all outputs	EscX11VTPO←	VtpoX11↵	
Query format settings	EscVTPO←	VtpoX2•X2•...X2↵	TMDS settings of outputs 1 to 4 (DA4) or 1 to 8 (DA8).
Video Color Bit Depth			
Set video bit depth for a single output	EscVX1*X3BITD←	BitdVX1*X3↵	X3 = Ø (auto, based on sink EDID) 1 (force 8-bit)
Set video bit depth for all outputs	EscVX3BITD←	BitdVX3↵	X3 = Ø (auto, based on sink EDID) 1 (force 8-bit)
Query video bit depth for all outputs	EscVBITD←	BitdVX3•X3•...X3↵	Video bit depth of outputs 1 to 4 (DA4) or 1 to 8 (DA8).

Command	ASCII Command (host to unit)	Response (unit to host)	Additional Description
HDCP Output Mode			
Set HDCP output mode for a single output	Esc S X1 * X12 HDCP ←	HdcpS X1 * X12 ↵	X12 = Ø - 3 (Ø is default)
Set HDCP output mode for all outputs	Esc S X12 HDCP ←	HdcpS X12 ↵	X12 = Ø - 3 (Ø is default)
Query HDCP output mode for all outputs	Esc SHDCP ←	HdcpS X12 • X12 • ... X12 ↵	Video bit depth of outputs 1 to 4 (DA4) or 1 to 8 (DA8).
Signal Status (unsolicited)			
Request all signal status	Esc LS ←	Sig X2 * X2 • X2 • ... X2 ↵	Input * Outputs local-max
Request all HDCP status	Esc HDCP ←	Hdcp X2 * X2 • X2 • ... X2 ↵	Input * Outputs local-max
HDCP Authorized Device			
HDCP authorization enable/ disable	Esc E X2 HDCP ←	HdcpE X2 ↵	X2 = Ø (disabled) 1 (enabled, default)
Query HDCP authorization status	Esc EHDCP ←	X2 ↵	X2 = Ø (disabled) 1 (enabled, default)
EDID Minder			
Assign EDID to input	Esc A X4 EDID ←	EdidA X4 ↵	X4 = EDID memory location (1 - 66) see the **DTP HD DA4/DA8 EDID Memory Locations** table on page 15 (default is 720p @ 60 Hz, 2-ch audio)
View EDID assignment	Esc AEDID ←	X4 ↵	
Save EDID of output to user location	Esc S X1 * X4 EDID ←	EdidS X1 * X4 ↵	Store the EDID of output X1 into EDID memory location X4 (65 or 66)
View/Read EDID in Hex	Esc REDID ←	X5 ↵	Read out EDID in Hex from currently selected EDID
View EDID native resolution	Esc NEDID ←	X6 ↵	Resolution and refresh rate of currently selected EDID *Example: 1600x1200@60Hz*
Import EDID to user slot	Esc I X4 *filename* EDID ←	EdidI X4 ↵	Import EDID from ***filename*** into specified user slot X4 = 65 or 66
Upload EDID file to unit	Esc +UF*size*,*filename* ←	Upl ↵	
Export EDID to file	Esc E X4 *filename* EDID ←	EdidE X4 ↵	Export EDID from specified EDID table slot to ***filename*** X4 = 1 - 66
Send file from unit to PC	Esc *filename* SF ←	File data (128 or 256 bytes)	Send ***filename*** from unit to connected PC

NOTE: ***filename*** can optionally carry a full path name. The EDID file format will be ".bin" carrying 128 or 256 bytes of binary data.

Command	ASCII Command (host to unit)	Response (unit to host)	Additional Description
IP Configuration/Setup			
Set date/time	Esc X15 CT ←	Ipt X15 ↵	
View date/time	Esc CT ←	X15 ↵	
Set DHCP mode	Esc X2 DH ←	Idh X2 ↵	
View DHCP mode	Esc DH ←	X2 ↵	
Set IP address	Esc X16 CI ←	Ipi X16 ↵	Default = 192.168.254.254
View IP address	Esc CI ←	X16 ↵	
View MAC address	Esc CH ←	X17 ↵	
Set subnet mask	Esc X18 CS ←	Ips X18 ↵	Default = 255.255.0.0
View subnet mask	Esc CS ←	X18 ↵	
Set gateway IP address	Esc X16 CG ←	Ipg X16 ↵	Default = 0.0.0.0
View gateway IP address	Esc CG ←	X16 ↵	
Set DNS server IP address	Esc X16 DI ←	Ipd X16 ↵	Default = 0.0.0.0
View DNS server IP address	Esc DI ←	X16 ↵	
Get number of connections	Esc CC ←	{Number of connections} X15 ↵	
Set admin password	Esc X19 CA ←	Ipa•X19 ↵	
Clear admin password	Esc •CA ←	Ipa•X15 ↵	
View admin password	Esc CA ←	X19 ↵	
Set user password	Esc X19 CU ←	Ipu•X19 ↵	
Clear user password	Esc •CU ←	Ipu•↵	
View user password	Esc CU ←	X19 ↵	
RS-232 Insertion Port Setup			
Enable output RS-232 port	Esc O X1 *ØLRPT ←	LrptO X1 *Ø ↵	Set RS-232 to pass through (default)
Enable output UART port	Esc O X1 *1LRPT ←	LrptO X1 *1 ↵	Set RS-232 to Ethernet insertion
Set all ports	Esc O X10 *LRPT ←	LrptO X10 ↵	Set all ports to pass through or Ethernet insertion
View Insertion Port Setup			
View output insert setting	Esc O X1 LRPT ←	X10 ↵	View port setting
View all output insert port setting	Esc OLRPT ←	X10[1] X10[2] X10[3]... X10[n] ↵	Verbose: LrptOØØ* X10[1] X10[2] X10[3]... X10[n] ↵

Command	ASCII Command (host to unit)	Response (unit to host)	Additional Description
Serial Port Configuration			
Set serial port parameters	Esc X57 * X58 , X59 , X60 , X61 CP ←	Cpn X57 • Ccp X58 , X59 , X60 , X61 ↵	
Query serial port parameters	Esc X57 CP ←	X58 , X59 , X60 , X61 ↵	Read port parameters
Configure current port timeout	Esc Ø * X64 TC ←	PtiØ * X64 ↵	Set timeout
View current port timeout	Esc ØTC ←	X64 ↵	View timeout
Configure global port timeout	Esc 1 * X64 TC ←	Pti1 * X64 ↵	
View global port timeout	Esc 1TC ←	X64 ↵	
Set UART start point	Esc X65 *MD ←	Pmd X65 ↵	Default = 1999 Output 1 uses 2001 Output 8 uses 2008
Query UART start point	Esc MD ←	X65 ↵	Read start point for UART
Unit Name			
Set unit name	Esc X8 CN ←	Ipn • X8 ↵	X8 = Up to 24 alphanumeric characters, including "-"
Set unit name to factory default	Esc • CN ←	Ipn • {Default} ↵	*Example:* *DTP-HD-DA8-330-0B-4A-45* (Model name and last 3 pairs of MAC address)
View unit name	Esc CN ←	X8 ↵	
Other			
Set verbose mode	Esc X14 CV ←	Vrb X14 ↵	
Query verbose mode	Esc CV ←	X14 ↵	
Query DTP mode	Esc OHDBT ←	HdbtO X13 • X13 • X13 ..... X13 ↵	
Request part number	N/n	6Ø-1437-Ø1 ↵ 6Ø-1438-Ø1 ↵ 6Ø-1437-51 ↵ 6Ø-1438-51 ↵	DTP HD DA4 230 DTP HD DA8 230 DTP HD DA4 330 DTP HD DA8 330
Query firmware version	Q/q	X7 ↵	
Query firmware version with build	*Q/q	*x.xx.xxxx* ↵	Firmware build with 2 decimals
Reset settings (retain IP settings)	Esc ZXXX ←	Zpx ↵	
Reset all settings (including IP settings)	Esc ZQQQ ←	Zpq ↵	

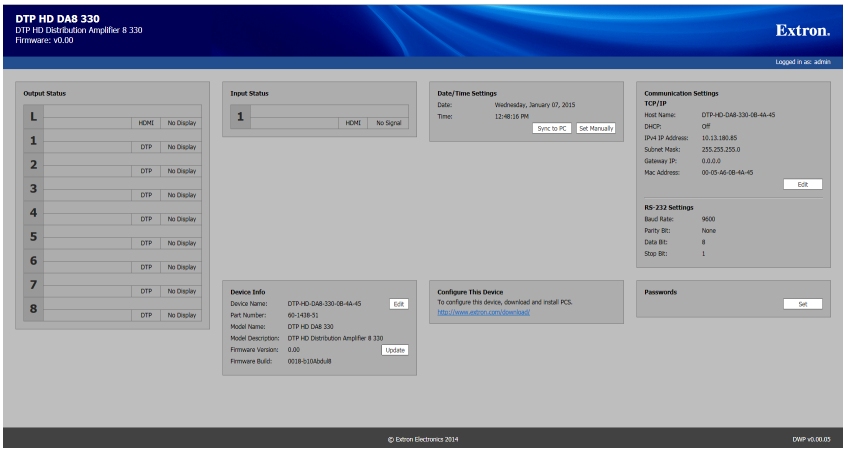
Reference Information

This section provides information about updating the firmware of the DTP HD DA models. The following topics are discussed:

- **Using the Internal Web Pages**
- **Updating the Device Firmware**

Using the Internal Web Pages

The DTP HD DA4/DA8 4K 230/330 Internal Web Pages allow for monitoring and set up of the device via an Ethernet connection.



Accessing the Internal Web Pages

To access the Internal Web Pages:

1. Using an RJ-45 cable, connect the device to a LAN via the rear panel LAN connector (see ❶ on **page 7**).
2. Enter the device IP address into a Web browser address bar.

Setting Up the Device with the Internal Web Pages

Output status

This section displays the status of all connected outputs. This section is not configurable.

Input status

This section displays the status of the connected input. This section is not configurable.

Device info

This section displays device information including:

- **Device Name** — Displays the device name. Click the **Edit** button to configure the name.
- **Part Number** — Displays the device part number (non-configurable)
- **Model Name** — Displays the device model number (non-configurable)
- **Model Description** — Displays a description of the connected model (non-configurable)
- **Firmware Version** — Displays the current firmware version number. Click the **Update** button to load new firmware to the device (see the following section for more information)
- **Firmware Build** — Displays the current firmware build (non-configurable)

Date/Time settings

This section displays the date and time settings of the device. Click **Sync to PC** to automatically sync the time to the connected PC. Click **Set Manually** to set a desired time.

Configure this device

Click the link in this section to go to the Extron website where the Product Configuration Software (PCS) can be downloaded.

Communication settings

This section displays the TCP/IP and RS-232 device communications settings.

TCP/IP

If necessary, click the **Edit** button to change the TCP/IP settings.

RS-232

This section is non-configurable.

Passwords

Click the **Set** button to set up a password for the device.

Updating the Device Firmware

Update the device firmware via either the Internal Web Pages or the Extron Firmware Loader software.

Downloading Firmware

To obtain the latest version of firmware for your distribution amplifier:

1. At **www.extron.com**, click the **Download** link at the top of the page (figure 6, ❶), then click the **Firmware** link (❷) on the left sidebar menu.

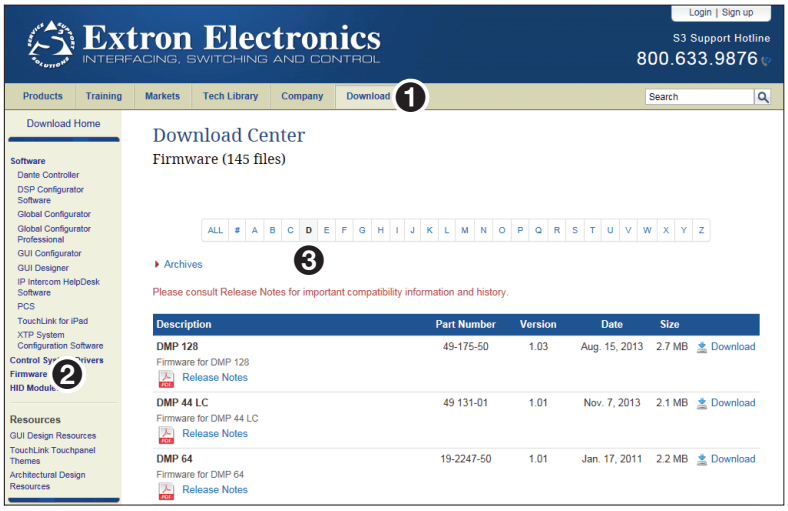


Figure 5. Firmware Link on the Download Tab

2. On the `Download Center` screen, click the letter **D** (❸).
3. (Optional) click **Release Notes** next to the necessary firmware. These notes show the issues that are addressed by the latest update. If these issues do not affect the current device, updating the firmware may not be necessary.
4. Locate the necessary firmware in the list and click **Download**.
5. On the next screen that appears, enter the requested user information, then click the **Download** button.
6. Follow the instructions on the rest of the download screens to save the executable firmware file to the computer. Note the folder to which the file was saved.
7. In Windows Explorer or another file browser, locate the downloaded executable file and double-click it to run it.
8. Follow the instructions on the `Installation Wizard` screens to install the new firmware on the computer. A Release Notes file and a set of instructions for updating the firmware are also loaded.

Downloading and Installing Firmware Loader

Extron recommends using the Firmware Loader software to update the firmware on Extron products. If Firmware Loader is not already installed on the connected computer, download it as follows:

1. Go to **www.extron.com** and click the **Download** tab.
2. On the `Download Center` screen, click the **Software** link on the left sidebar menu.

3. On the next **Download Center** screen, locate Firmware Loader and click its **Download** link.

Firmware Loader
Extron Firmware Loader is a computer software application that allows you to update Extron products with field-upgradable firmware. The software supports firmware updates to Extron products connected via USB, serial (RS-232), or addressable on your local area network (LAN). Learn More
Release Notes
79-508-01
5.1
Jul. 20, 2012
13.5 MB
Download
1

Figure 6. Firmware Loader Download Link

4. On the next screen, enter the requested information, then click the **Download fw_loader_vnxnxn.exe button** (where n is the Firmware Loader version number).
5. Follow the instructions on the rest of the download screens to save the executable Firmware Loader installer file to the computer. Note the folder to which the file was saved.
6. In Windows Explorer or another file browser, locate the downloaded executable installer file and double-click it to open it.
7. Follow the instructions on the Installation Wizard screens to install Firmware Loader on the computer. Unless you specify otherwise, the installer program places the Firmware Loader file, **FWLoader.exe**, at **c:\Program Files\Extron\FWLoader**.

Loading Firmware to the DA with Firmware Loader

To load a new version of firmware to the distribution amplifier using Firmware Loader, follow these instructions.

1. If not already installed, download and install the Firmware Loader executable installer file to the computer (see **Downloading and Installing Firmware Loader** on the previous page).
2. If necessary, download the latest version of firmware for the desired product (see **Downloading Firmware** on the previous page).
3. Connect the distribution amplifier to the computer using the front panel USB connector (B on **page 5**), the rear panel LAN connector (J on **page 7**), or the rear panel RS-232 connector (K on **page 7**).
4. Open Firmware Loader. If there is no desktop icon, open the program from the Start menu by selecting:

   Start > **All Programs** > **Extron Electronics** > **Firmware Loader** > **Firmware Loader**

   The **Firmware Loader** dialog box opens with the **Add Device...** dialog box in front of it.

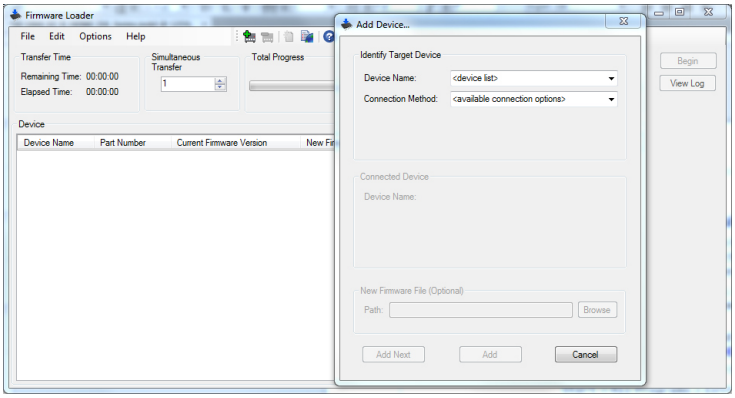


Figure 7. Opening Firmware Loader

5. Select the **DTP HD DA** product from the Device Name menu.
6. Select **RS-232**, **USB**, or **TCP/IP** from the Connection Method menu.
7. Depending on the connection method that selected, additional options appear. Make the appropriate selections for the connection method.
   - **RS-232**: Select the appropriate options from the Com Port and Baud Rate menus.
   - **USB**: Only the Extron USB Device_0 option is available on the Available Devices menu. Make sure that it is selected.
   - **TCP/IP**: Enter the IP address (default is 192.168.254.254), port number, and password (if necessary).
8. Click **Connect**. If the connection is successful, DTP HD DA4 4K 230/330 or DTP HD DA8 4K 230/330 is displayed in green in the Connected Device panel, followed by a green check mark.
9. Click **Browse** to locate the Firmware file that was downloaded in step 2.

ATTENTION:

- Valid firmware files must have the file extension S19. A file with any other extension is not a firmware upgrade for this device and could cause the device to stop functioning.
- Les fichiers firmware valides doivent contenir l'extension fichier S19. Un fichier avec n'importe quelle autre extension n'est pas une mise à jour de firmware pour cet appareil et l'appareil pourrait arrêter de fonctionner.

NOTES:

- The original factory-installed firmware is permanently available on the DA units. If the attempted firmware upload fails for any reason, the unit reverts to the factory version.
- By default, when the firmware is downloaded from the Extron site, it is saved in one of the following paths:

  C:\Program Files\Extron\Firmware*folder_name* (Windows XP) or

  C:\Program Files (x86)\Extron\Firmware*folder_name* (Windows 7) where *folder_name* may be named for the specific model needed.

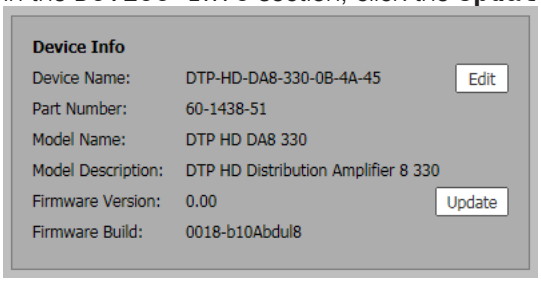
10. If multiple units are connected to the computer, it is possible to upload the same firmware to all of them. Click **Add Next**.

    The first device is added to the Devices section and the Add Device... dialog box remains open. Add additional devices, by repeating this step.

    When adding the last device, (or if only updating a single unit) click **Add** (do not press Add Next). The device is added to the device list in the Firmware Loader window and the Add Device... dialog box closes.
11. Highlight the distribution amplifier in the device list and click **Begin**. The following indicators show the progress of the update:
    - The Transfer Time section shows the amounts of remaining and elapsed time for the update.
    - The Total Progress section displays a progress bar with Uploading... above it.
    - In the Devices section, the Progress column displays an incrementing percentage and another progress bar. The Status column displays Uploading.
12. The upload is complete when the Remaining Time field shows 00.00.00, the Progress column shows 100%, and Completed is displayed above the progress bar and in the Status field. Close the Firmware Loader dialog box.

Loading Firmware to the DA with Internal Web Pages

1. Using an internet browser, navigate to the device Internal Web Pages.
2. In the `Device Info` section, click the **`Update`** button.



3. Click the **`Browse`** button and locate and select the desired firmware file, then click **`Open`**.
4. Click the **`Upload`** button.

Extron Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

USA, Canada, South America,
and Central America:
Extron Electronics
1230 South Lewis Street
Anaheim, CA 92805
U.S.A.

Japan:
Extron Electronics, Japan
Kyodo Building, 16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan

Europe and Africa:
Extron Europe
Hanzeboulevard 10
3825 PH Amersfoort
The Netherlands

China:
Extron China
686 Ronghua Road
Songjiang District
Shanghai 201611
China

Asia:
Extron Asia Pte Ltd
135 Joo Seng Road, #04-01
PM Industrial Bldg.
Singapore 368363
Singapore

Middle East:
Extron Middle East
Dubai Airport Free Zone
F12, PO Box 293666
United Arab Emirates, Dubai

This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions, or if modifications were made to the product that were not authorized by Extron.

NOTE: If a product is defective, please call Extron and ask for an Application Engineer to receive an RA (Return Authorization) number. This will begin the repair process.

USA: 714.491.1500 or 800.633.9876 **Europe:** 31.33.453.4040
Asia: 65.6383.4400 **Japan:** 81.3.3511.7655

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.

Extron Headquarters	Extron Europe	Extron Asia	Extron Japan	Extron China	Extron Middle East	Extron Korea	Extron India
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